

November 1984

TWIN CITIES ATARI INTEREST GROUP

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Secretary: Mark Neuman Treasurer: Dick Johnson
And All around nice guy: Jim Dahlberg

Dear Members,

I thought I would take this opportunity to wish you all a joyous holiday season, May your joysticks never break and may you never find your antic chips blown. Have a good holiday season and see you at the meeting,

Your President

Phil Seifert

Hi, we're Dave Stengel and Cory Johnson, the NEW editors of the TAIG newsletter. We took over after reading the October letter that was mainly concerned with the quitting of the old editor (Ralph Jensen). Neither of us is a computer genius so we need all the help we can get. Look at the problem, the newsletter has been getting rather thin, and neither Dave or I can write the entire thing, and we do not expect anyone of you to write the newsletter, although Todd Burkey did write half of the October issue (that is a public thank you) with his product reviews, Mark Simonson wrote a quarter of the October newsletter in a letter to the editor concerning FORTH (another thank you). So as you can see, the amount of authors compared to the amount of TAIG members is quite unbalanced. Now I don't know who you expect to write the newsletter, but it has to be you members, after all, only members get the newsletter, and isn't it the reason you became members anyway? Very few of you would pay \$10.00 to sit at a meeting when you could do it for free. Now you're saying, "but Cory I can't write about anything, all I do with my Atari is play Laser Ant." Well, tell about the day a cartridge shot out of the slot, through the roof and landed in a sewage treatment facility. I am serious, about the only thing my 800XL gets used for is playing Gruds in Space and arcade type games (Boulder Dash), and I'm not just writing, I'm editing which says either something for my

bravery, or stupidity. There might also be the misconception that we want an on going column from any of you brave enough to attempt to write. If that's what you want to do, fine, but we also accept one shot articles, tell us about the software you bought at the last meeting, was it worth 25 to 40

dollars? Write a letter to the editor, do you like the format of the newsletter? do you want a certain type of column? did you have a hardware or software problem that you just can't solve? write us if we can't answer your question, we can find someone who can, or at least someone with a vague idea of what to

do. Dave and I want to start some definite semi-monthly columns, one a software review column, we can't expect Mr. Burkey to do all of it, and we have rather large software libraries of older software, we can review the titles you have not seen, and some we wish we had never seen. We also are avid adventure addicts and plan to offer a column with adventure hints and solutions, after all we've all been stuck, and sometimes, the people who have solved won't even give a lantern, to shine light on the problem. We want to start a For Sale column where you could list the modem you want to sell to me, or your old 810 that Dave would be more than happy to purchase, you can list that extra 850 you received as a Halloween present (I know a few people who would fight over a reasonably priced 850). Dave wants to start a BASIC tutorial, and I recently became convinced of the need of this after giving a disk to someone who had owned his computer for over a year, and did not know what a file name extender was, or how to use one (I won't mention any

names...). In looking back through all my newsletters, March through October, I also saw that the only people who are still advertising with us is Soft Unlimited (another thank you) and as of the typing of this whiz-bang totally thrilling editorial, neither Dave or I had heard from them. Of course this could be due to the fact

that we don't know what we are doing, what we are responsible for or even when the newsletter is sent to the printer. Hopefully by the next meeting, all this will be straightened out. Deadlines, don't worry about them. I am going to put a wire basket on top of my drive labeled "To be edited/retyped" so get the article to one of us anytime if it is too late to put it in the current letter, we will most certainly put it in the next newsletter. So don't think about a brilliant article only to say "ah darn, it'll never make deadline." and promptly boot up the drive and load "yeech" Galactic Chase. If you don't have a word processor, get one! What do you think we are here to do edit? But seriously write it by on school paper, type it, or write it on a roll of toilet paper,

what ever is handy at the time. Now a hitch arises, Neither Dave or I have modems (you've got editors, you can't have every thing) so you either have to phone us, or mail the article to us. If anyone who lives in the Plymouth, Wayzata area (school district 284) has a modem and would like to use that modem for the good of the club, would you please call one of us. I am currently looking for a part-time job and a modem is my top purchase priority. If you have a modem that is not being used, and you would consider loaning it to one of us, we would be

most appreciative. To respond to anything I have said, or on a remote chance, submit an article contact either of us at the times and places listed below.

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Presidential Rumors

Newsflash!!!

I was completely flabbergasted to see a full page ad in the Star and Tribune this morning by Atari. THEY LOWERED THE RETAIL PRICE OF THE 800XL to \$120!!!!!! And the 1050 disk drive is now officially \$200 retail. It is good to see that Atari is finally starting their big advertising push for Christmas and it is about time. Now if we only knew for sure what else they are up to?

I am still hearing rumors of two different machines in the works for Atari. One is going to be an enhanced 800XL with 128k of ram, probably handled the same way the IIc handles the extra memory. This machine is rumored to be upward compatible with the current 800XL series of machines. If this product is truly going to be manufactured, it is good news for us current owners of Atari Computers. It will mean future support by the company and third party manufacturers.

The other machine I am hearing rumors about is kinda of an Atari Mac. It is purported to have 128k ram minimum, 640x400 color graphics (have not heard how many colors), 8 channel sound synthesis, a 3 and 1/2 inch disk drive and the target price that has been whispered around is \$300. If this is the target price, I can only think that it would be correct without the disk drive. Also, it is rumored that there will be a hard disk drive for around \$200. Gee, if this stuff comes out, I think I will be one of the first ones in line to buy one.

One disturbing rumor going around right now, is that all the fancy new programs and products they announced and have not released, are probably not going to be either by Atari.

What this holds in store for the Plato cartridge remains to be seen. Atari has not decided on what to do with that product yet. If they don't go ahead with the release, it would be a shame. Maybe CDC will sell it or somebody else? But don't expect to see the Mindlink controller or anything else from Atari that was planned for release. Sigh, I wanted a mindlink, maybe I should go buy the Relax program from Synapse.

I would like to thank all the people who have given me support for the newsletter. The articles and help is greatly appreciated and I hope the support continues in the future. Thanks again guys!

Another newsflash just came to me while I was typing. It seems that K-Mart received a letter from Atari telling them to clear out their old inventory fast. They will be receiving new shipments of products right after Thanksgiving and the rumor is that it is not going to be 800 xls either!! It appears that things are starting to move fast now. Keep your eyes open!!

-Phil Seifert-

Another Newsflash!!

It seems that I can't get this newsletter done. Everytime I think I am finished, something else comes up. However, this particular reason is of great importance to us! Antic had a interview with Jack Trameil and Atari Corp. executives!! Here are the particulars.

- * Price drop on 800XL's, now officially \$119.95!
- * Atari 1050 disk drives will be cut to under \$200 for holiday season.
- * Also the 1010 recorder and 1027 letter quality printer will be put on sale.

* Atari is going with a multi-million dollar ad campaign for Christmas.

* At CES Vegas, Atari will show a line of 3-5 8 bit machines COMPATIBLE with the current 800XL!

* Also a new line of 16 bit machines!

* All these new machines will be on the market during the first quarter of 1985.

* A new modem and full size color printer will be introduced. Trameil

underlined his commitment to telecommunications and said that the new modems will be able to upload and download at both 300 and 1200 baud. No interface is required.

* Plato cartridge was their number one new software product.

* Trameil pledged support to user's groups.

* A new 32 bit machine based on the new 32032 microprocessor will be introduced at a computer show in Hanover, West Germany next April. It was quoted to be "A VAX in a box"

* Atari Corp will not sell any software for over \$49.

I guess that should be enough to wet your appetites. I will go into more detail about this interview at the meeting on the 25th. Be there!

A Basic XL programming style
Demonstration
TaT

The following program is submitted as an example of some of the capabilities of Basic XL from Optimized Systems Software. This small example uses some of the many advanced features available with this particular software package.

The program is a simple menu program which will print a menu of files on the disk, to the screen, and will run these files if they are in Basic. You may select the file that you want to run by entering the number that appears to the left of the file name.

The program as presented has been optimized for minimum size. It is possible to write a far more readable version of this program, however, the finished version would probably be at least twice as long. The program as printed here is less than 700 bytes long. I believe that this would be very difficult, or impossible to duplicate in ATARI BASIC. The program was written and then RENUMBERed using the RENUMBER command in BASIC XL.

```
1 Dim M$(60,13):N=1:?
Chr$(125);:Open #2,6,0,"D:*. *"
2 Input #2;M$(N);X$=M$(N);If
X$(5)="FREE SECT" Then 5
3 If N>9:? N; " ";M$(N); " ";:Else
:? " ";N; " ";M$(N); " ";:Endif :If
N/2=Int(N/2) Then ?
4 N=N+1:Goto 2
5 Close #2:If N/2=Int(N/2) Then ?
6 Trap 6:Input "WHICH?",X:If X<1 Or
X>N-1 Or N<>Int(N) Then 6
7 X$=M$(X);Y$=X$(3,10):N=8
8 If Y$(N,N)=" " Then N=N-1:Goto 8
9 F$="D:",Y$(1,N),".",X$(11):Trap
10:? "RUNNING ";F$:Run F$
10 ? "CAN'T RUN ";F$: For T=1 To
1300:Next T:Run
```

The program works like this:

LINE 1: Line 1 sets up the string matrix necessary for the storage of file names, clears the screen, and opens the directory file.

The DIMension statement sets up a string matrix (M\$) of 60 elements 13 characters long. The value 1 is assigned to the variable N which is used as a counter to provide the file numbers. The ? is a equivalent to the statement PRINT and is used to print the CHaRacter \$tring decimal 125 which is the clear screen character, followed by a semi-colon which is used to suppress the automatic linefeed which normally follows a PRINT statement. The OPEN command is used to assign IOCB channel #2 to the directory file of drive one, which is used to read the directory. Program execution now continues on to line 2.

LINE 2: Line 2 gets a file name from the directory file and checks for the end of the directory.

The INPUT #2 statement is used to get a file name from the disk directory via IOCB channel #2, and assign that string to the String matrix variable M\$ at the element location indicated by the counter variable N. Next the value of the matrix variable at element n is assigned to the string variable X\$ which is automatically dimensioned to the length of 40 characters. The variable X\$ is used in an IF-THEN statment to determine if the end of the directory file has been found. The subscript in the X\$ variable is used to eliminate the sector count normally associated with the FREE SECTORS message at the end of the directory file. If the end of the directory has been found, the program execution is then directed to program line 5. Otherwise the program execution continues on to line 3.

LINE 3: Line 3 uses an IF-ELSE-ENDIF construct to format the output of the program to the screen.

The IF determines whether or not the variable N is greater than 9 if it is the code between the IF and the Else then prints the value of N, a right parenthese, followed by one space, and the value of the Nth element of the string matrix variable. If the value of N is less than 9 the code between the ELSE and the ENDIF is executed printing one space, the value of N, a right parenthese, one space, and the Nth element of the string matrix variable. Following the ENDIF is a IF-THEN statement used to determine if the value of N is odd or even, if the value of N is even then the program prints to cause a linefeed on the display, and the program continues execution on line 4. If the value of N is odd then the program execution proceeds to line 4.

LINE 4: Line 4 increments the counter variable and sends the program back to get another file name.

The additon operator "+" adds 1 to the value of variable N. the assignment operator "=" then assigns that value to variable N. The GOTO statement then re-directs program execution back to line 2 creating a loop which will continue until line 2 finds the end of the directory file. Then program execution will be re-directed to line 5.

LINE 5: Line 5 closes the directory and positions the cursor in the appropriate location on the screen.

The CLOSE statement is used to disconnect the IOCB channel #2 from the disk 1 directory file. Then an IF-THEN statement is used to determine whether the value of N is odd or even. If the value of N is even, since N was updated just prior to finding the end of file this

means that the last file name printed was on the left side of the screen, the program PRINTS to cause a linefeed which is used to set the cursor at the bottom of the file list on the left side of the screen, program execution then continues on to line 6. If N is odd this linefeed is not needed and therefore program execution skips the PRINT statement and continues on to line 6.

LINE 6: Line 6 gets the number of the desired file from the user and checks the file number for validity.

A TRAP statement is set to cause execution of the program to return to line 6 in the event of an input error by the user. Next an INPUT statement is used with the optional string prompt "WHICH?" to get the number of the selected file to run. Then the number entered by the user is checked for validity by an IF-THEN statement which checks for numbers less than 1, OR greater than the last valid value of N, OR numbers that are fractional in nature. If any of the three conditions are true then the program execution goes back to the beginning of line 6. If none of the three conditions are true then program execution continues on to line 7.

LINE 7: Line 7 sets up the appropriate variables to be used in line 8.

The assignment operator "=" assigns the selected segment of the string matrix variable to the previously used string variable X\$. Then a auto DIMensioned variable Y\$ (dimensioned to 40 characters) is assigned the value of X\$ which lies between characters 3 and 10. Next the counter variable N is assigned a value of 8. Program execution now continues on to line 8.

LINE 8: Line 8 locates the end of the non-space portion of the initial 8 characters of the file name.

An IF-THEN statement is used to locate the end of the first portion of the file name. This is done by comparing the Nth character to a space, if that character is the space character then the value of N is reduced by 1 and a GOTO statement is used to direct the program execution to line 8 forming a loop that will execute until a non-space character is found. When a non-space character is found the IF comparison will fail and the code following the THEN statement will not be executed causing the program execution to continue to line 9.

LINE 9: Line 9 sets up a file specification and runs the selected file. In the event that the file cannot be run line 9 re-directs the program execution to line 10.

The string "D:", the non-space portion of Y\$, the string ".", and the last 3 characters of X\$ are consecated and assigned to the auto DIMensioned string variable F\$. A TRAP statement is set to re-direct program execution to line 10 in the event of an error. The string "RUNNING ", and F\$ are printed to the screen to tell the user which file has been selected. And finally the RUN statement is used to cause the selected file to load and run. If the file is not BASIC in the SAVEd format it cannot be run, which is an error which will cause the trap statement to redirect program execution to line 10.

LINE 10: Line 10 prints an error message and waits a little bit and then runs the program over again.

A print statement causes the string "CAN'T RUN " and the contents of F\$ to be displayed on the screen. Then a FOR-NEXT loop is used as a delay loop (using the variable T) to give the user time to read the message. Finally a RUN statement causes the program to begin executing from line 1.

OCTOBER MEETING NOTES By MJN

The October meeting was called to order by Phil Seifert, and after introductions of the board he launched us into the subject at hand. That is the demise of the ex-newsletter editor (personal note from a board member that tried to input several articles: Please don't slam the door on the way out) it was noted that there were several volunteers to take over the role of newsletter editor and the job was duly passed on to them. Articles will be accepted in any form, so if you must just write it out and hand it in; however, we would appreciate it if you would type it onto a disk or cassette; just list out a 'program' of REM statements that contain the text of your article. News from ATARI it was told to Phil by a good source that ATARI is planning to continue production of the 800XL into the new year and release the 1450XL after Christmas. Also ATARI's new machine is going to be 68000 based capable of 6-8 mhz, with 128k of memory (min), containing a 3.5 inch disk drive, supporting 640 X 400 color resolution with an undetermined number of colors, eight sound channels and all of this for a target price of \$300.00. Also planned for this machine will be a hard disk drive, target price \$200.00. Atari has dropped all of the warrantee repair centers; however, there are still independents in the Twin Cities which will continue to provide repair service. Next month there will be a drawing for some free programs so come and join us on Nov 25 at 7:00 pm.

SynFile+ from Synapse
Reviewed by Bob Floyd

SynFile+ is a newly released database program from Synapse Software. The program is neatly packaged with a nice 3 ring binder and two disks. The first disk is a good tutorial aimed at the beginner level. The other disk is the program itself. The program is written in machine language for fast processing.

A database is a program that helps you use your computer to store records. I am using SynFile+ to keep track of household inventory, names/addresses, medical expenses, savings bonds, software purchases, credit card numbers, etc. The nice thing about a database program is that you can sort records, search records by categories, add portions of some or all records together, and print lists or labels from your records.

SynFile+ is probably the most powerful database program for the Atari. It allows storage of vast amounts of information - up to 16 data disks for a given file are allowed. Plus, the search capability is very fast - about 2 seconds on a file with 260 records. Atari 1050 type "double density" is supported. The files that are created are Dos 2.0 compatible, although I'm not sure you can use a DOS file transfer to move a file to another disk. (editor's note: I believe not, since it is using notes and points to locate the records. The values could be different on another diskette.) SynFile+ provides this capability within itself. Axlon 128k Ram Power and Mosaic 64k Select boards are also supported. This allows indexing of larger files.

Records in a data file are broken up into fields. In a name/address data file, for each record you might have

the following fields:

Name
Address
City
State
Zip Code
Phone Number

You might include some other fields of interest to you. Then you could use it to print up a phone listing, find all persons within a certain zip code or state, keep track of Xmas card mailing list, etc.

As I said, the search capability is very fast. This is because fields are indexed. Indexing does sorting in alphabetical order, plus storage of a few letters of desired fields for all records. This allows very fast searches when searching indexed fields. However, the price you pay for heavy indexing is reduced capacity of record storage for a given file. If the file is too big, you can easily break it down into smaller files. Typical maximum size of a file indexed on the first 2 letters of 3 fields is about 750. This should be plenty for most of us.

A place where SynFile+ really shines is in data entry and arrangement. The "create" function is very versatile in allowing customizing of your file for data entry and viewing. Special field types are allowed such as text (left or right justified), numeric, look-up (allows only certain entries), dollar, date, integer (left or right justified) and several others for specialized applications. Numeric and dollar fields can be totalled during printout for all or only records which meet the search requirements.

My main complaint with SynFile+ is the report function. While it is capable of listing data or even making labels, it should have even

more capabilities. The program supposedly supports multiple labels across the page. It doesn't do this very well because it inserts a lot of unnecessary spaces between labels. You might be able to print 2 labels across for names/addresses with a little luck. Luck is needed because SynFile+ doesn't allow editing of your label layout after a test printing. You must re-enter the whole label layout. There is also no provision for saving your label layout to disk for recall later. The insertion of text in your label layout for printout with the data is also not supported. One other annoyance is that there is no easy way to enter printer control codes. The only way I've found is to enter them with the title if you are using the list "list" option. Otherwise, you must send your codes to the printer before booting SynFile+.

However, SynFile+ does allow dumping the output meant for a printer to a disk file that can be edited with a standard word processor such as AtariWriter. I've tried this with good luck, although lining things up can be a little difficult. I'm writing a BASIC program soon that will read a file like this and allow a much more versatile printout per my desires listed above. See me in a few weeks or so if you'd like a copy.

One other thing you might be interested in is a conversion program that reads in a datafile created with Softside magazine's database (recently mistakenly featured on TAIG and SPACE's disk of the month) to DIF format, which SynFile+ can read. That is how I converted about 160k of data for use on SynFile+. See me if you want a copy.

Overall, I'd still give SynFile+ a very strong recommendation. It really is a solid piece of software.

SURGE PROTECTION
by Bennett Porter

The recent thunderstorms have renewed interest in the dangers of "voltage spikes" caused by lightening. For many of us the thought of plucking down \$50 to \$75 for a commercially made surge portector is too much for this seemingly rare event. Instead we take our chances or we unplug our computers if we remember. Another alternative was described in detail in the December 1983 issue of BYTE MAGAZINE-you can MAKE YOUR OWN SURGE PROTECTOR.

BYTE is a well known journal for the microcomputer world. I found that most major libraries have all the issues going back for years. The article we're interested in shows how to make an equal or better surge protector for \$5.00. That's right five dollars. What's better is that if you can boil water you can make it. You don't go near your computer, instead you solder three metal oxide varistors(MOV's) to your multi-socketed power strip.

This project has been so popular nationally that there has been a tremendous shortage of MOV's at Radio Shack. Because of this the August 1984 issue of BYTE named four more sources for MOV's including a firm here in Minnesota.

Look Ma!
NO
ADS !!

Ramrod XL and Omniview XL

These two products add much versatility to your 800 xl computer. With the Ramrod XL, you have no need for the Atari Translator diskettes. It is a replacement operating system that closely matches the old Rev. B operating system in the 800 computers. This product comes with a three position switch. In one position, you have the normal 800 XL computer on your hands. If you put the switch in the middle position, you will now have the Newell Industries OS that is very compatible with the Rev. B OS. And it has a few enhancements of its own. Like faster keyboard response, user definable baud rate for cassette I/O, and the Omnimon machine language Monitor. Omnimon is a resident monitor that allows you examine the computer's memory, disassemble and assemble codes on the fly and many other things. For a hacker, this product only makes the device worth getting.

And if you decide to spend a little more money, (the third position of the switch is used to select this option) you can get the Omniview XL to go with the package. What the Omniview XL will do for you is give you an 80 column display via software. It uses judicious color selection and a well designed character set to achieve this in Gr. 8, you do lose 8k of programming space when you use it though. Of course, it is not as good as a hardware created 80 columns would be, but heck, this is not a shabby display either. With this enhancement, it makes calling up BBS's a pleasure. You don't know how nice 80 columns is until you try it. Also including with the Omniview XL is software patches that you could execute on Letter Perfect and Data Perfect from LJK Enterprises.

I suppose, now that I got your

curiosity going, you want to know how much you would have to spend to upgrade your computer to this level of sophistication? The Ramrod XL sells for \$140 retail, the Omniview XL is another \$40 on top of that. So, for \$180, you get a new operating system that is superior to the old one, a machine language monitor and an 80 column display. Just think, I spent \$300 for a hardware 80 column display, but I could have lived with the Omniview display also.

You must have the Ramrod XL to use the Omniview XL. The Ramrod XL takes about 15 minutes to install and is a piggy-back pc board. You take out the OS chip and plug it into this board and then you plug the board into the empty socket. The next step is to create a hole in the back of your computer to put the switch in. All in all, it is fairly simple to put in and I even managed to do it by myself.

This is one of the few hardware enhancements that I would recommend putting in your computer. Seriously consider this device. It is worth it!

YOU'RE A COMPLETE KNEEBITER, DENT!!

Grab your towels and be sure to plug your ears so you don't accidentally hear Vagon poetry. Hitchhiker's Guide to the Galaxy adventure from Infocom is out!

Adventure with your favorite alien from a small system near Betelgeuse named Ford Prefect and stick that in your ear. Of course, if you don't use the babel fish, you wouldn't have to listen to the captain's poetry.

You start the game in bed with a splitting headache and no robe on. Your mission is to somehow survive and explore the galaxy with Ford. So grab your Hitchhiker's Guide to the Galaxy computer-book and enjoy yourselves. The game sells for \$34.95 and comes in the new style of packaging of Infocom's. The game is rated as a standard level adventure. Now if I only could stop getting killed by that blasted bulldozer.

Magazine Mania

By Bob Floyd

What's happening to our ATARI magazines? I'm not sure it's safe to subscribe anymore. A few months ago, I lost money on Softside when they filed for Chapter 11 bankruptcy. Maybe I'll recover a few dollars of this. And now, it appears Hi-Res has bit the dust, along with my subscription. I only got issues #3 and #4 of my subscription (although I got #3 twice) after I had purchased #1 and #2 at the newstand. I really liked Hi-Res. Their last issue, #4, started featuring Commodore too. Maybe this was their demise. Perhaps ATARI subscribers asked for refunds? Does anyone know?

The September issue of Compute! features a description of the industry in turmoil in the "Editor's Notes" column. Robert Lock, the editor, reports that the December, 1983 issue of Compute! had 393 pages, 215 of which were advertising. In comparison, the September, 1984 issue has only 164 pages, 60.5 of which are advertising. This illustrates the "shakeout" going on in the computer industry. Magazines are feeling the pinch in reduced advertising revenues. Hopefully, the magazines can adjust. Compute! says that they have come up with a good formula for the future. I hope so since I like Compute! a lot.

Analog seems to be doing fine, but has shrunk in size from a high of about 150 pages to 98 in the October issue. The content is still excellent. They are taking a "wait and see" and "we'll report it" attitude on the recent changes at ATARI.

However, Antic is apparently taking a new stand. Antic has also shrunk from about 146 pages to 92 in October. The difference at Antic is that they appear to be taking a leadership role in the changes at ATARI. First, they are trying to fill the void due to the demise of APX. Antic is contacting all APX authors so that Antic can market

their programs. They will also market new APX-type software. Second, Antic is setting up a user group BBS for product reviews, teleconferences, etc. Third, Antic is preparing to offer "selected products directly by mail." All subscribers will receive catalogs. Listings will also be updated in each magazine issue. Antic is also adding new features such as disk subscriptions, a removable program listings section, a new typo program, etc. It sounds like a good plan to me.

(Incidentally, Antic does not offer special deals on disk subscriptions to user groups. Individuals must subscribe separately. Analog is still the best deal in town.)

Tech Sketch Light Pen
Reviewed by Bob Floyd

I recently received the LP-10S Light Pen with Micro-Illustrator (M-I from here on) software from Tech Sketch Inc. As you probably know, M-I is the very impressive Graphics 7.5 software used by Koalapad and ATARI Touch Tablet for drawing pictures on a TV screen. Standard compressed files (i.e., the .PIC files) are compatible between Tech Sketch and Koalapad, but Touch Tablet is not compatible with either. However, all files saved (filename is PICTURE) using the SHIFT-INSERT keys on the Storage Menu will be compatible with each other. I understand that you can load the file PICTURE back by using SHIFT-DELETE (I think?) on the Storage Menu. If you have questions, just ask at the meeting.

That's enough for software compatibility. How does it work? Light pens work by sensing the light from the TV screen. By keeping a close track of time from start of the electron beam sweeping the screen, the position of the beam when detected by the light pen can be calculated. Since TV screens seem to differ somewhat, M-I has included an "alignment" feature on the Main Menu. This feature calibrates the light pen so it will line up with a cursor on the screen. Alignment is the first thing that M-I does after booting. Along with alignment is a feature called "inertia". This a sensitivity feature that determines how quickly and accurately the cursor follows the light pen's calculated position. Note that I said calculated position. Apparently, there is a lot of noise in the signal causing the cursor to jiggle quite a bit when drawing. By increasing the "inertia", jiggling can be reduced to the point where you can draw

smoother lines in DRAW mode than with a touch tablet. This a very impressive feature and improved my drawing ability. I found I had better screen presence and could plan and position much better.

For those who don't want to know more about "inertia", please skip a couple of paragraphs. The inertia being used is probably mathematical filtering. Values being received are averaged with the previous filtered values using a weighting factor. A 60% filter would be 60% of the current value plus 40% of the previous filtered value. Or,

$$\begin{aligned} FV2 &= (.60 * V) + .40 * FV1 \\ FV3 &= (.60 * V) + .40 * FV2 \\ FV4 &= (.60 * V) + .40 * FV3 \\ &\text{etc.} \end{aligned}$$

where FV = filtered value
V = value of pen
location
and FV1 = V for initial value

Different effects can be achieved by changing the percentage. More filtering (or inertia) is accomplished by using a lower percentage of the current pen value. Of course, this example can be used on a wide variety of things.

The Tech Sketch light pen worked very well on my ATARI 800, but didn't work at all on my 48K 400. Before I describe my 400 problems, let's discuss 800 performance. I found that all the features worked well and that I could draw better, except for a few small problems. First, I have not figured out how to take advantage of the "magnify" feature. I can't find my way around the whole picture. Second, the TV screen must be bright and you must use bright colors when drawing. In other words, don't try to use black as the background color (default is white). Otherwise, performance was impressive.

As I said, my 48K ATARI 400 did not work. I was able to boot the program, but the required alignment procedure didn't work. The program could not sense the pen position. So, the program could go no further without the pen "getting lost". It didn't work on SPACE's 400 computer either. Both of these computers have the MACE 48K upgrade. They both have the GTIA chip, too, so this can't be the problem. My wild guess is that it is either the 48K upgrade or a difference in video signal quality between 400 and 800 computers. Does anyone have any ideas? I plan to test the pen on an 800XL prior to the meeting.

I am bringing my 800 along to demo the pen. Incidentally, Tech Sketch with M-I software retails for about \$70. They will make SPACE a special deal on a group purchase. So, if you have an 800 (or an XL?), you might be interested. I will talk to Tech Sketch about 400 computers after getting some feedback at the meeting.

BIT MANIPULATION by Bennett Porter

The ATARI's disk operating system allows us to store about 88k on each disk. Even the new 1050 disk drives with their enhanced density allow for only about 1 and 1/2 times this. Many of us may have hostilely glanced at other computers whose disks store much more.

One answer to this problem is to compact the data into a more efficient form. This can easily be done because most data can be grouped into catagories. As an example:

boy/girl, righthanded/lefthanded,
married/single, child/adult,
member/non-member.

Instead of having the disk store "boy" in three bytes or "girl" in four bytes why not just use the seventh bit of one byte to store this information. Each byte is made up of 8 bits(7 to 0) so:

"boy" = 10000000
"girl" = 00000000

Using the PEEK command the memory location for "boy" would be equal to 128 and "girl" to 0.

A more complex example follows:

"boy	"girl
lefty	righty
adult	child
single	single
TAIG	non-TAIG
democrat	republican
minnesota	not-MN
cool" = 11110111	nerd" =

00011000

The memory locations with PEEK would show the decimal equivalents of the above numbers as 247 for the first example and 24 for the second

example. It's hard to believe that so much information could be stored in one number!!

Atari BASIC(or any other basic) does not allow us to change individual bits with a specific command but unlike other basics we can easily enter machine language subprograms with the USR command. I just wrote a short machine language program to change the bits and another to read the bits. You don't need to understand the machine language to use the programs just a little about how to use the USR command.

First load the code into page six. To enter the "write" program

type:

A=USR(1536,ADR(byte\$),FBIT,SBIT,NU)

where 1536 = address of code
ADR(byte\$)= address of byte to change.
FBIT = top bit to change
SBIT = low bit to change
NU = decimal number to

insert

A = -not used-

To enter the "read" program
type:

A=USR(1589,ADR(BYTE\$),FBIT,SBIT)

where 1589 = address of code
ADR(byte\$)= address of byte to read
FBIT = top bit to read
SBIT = low bit to read
A = decimal answer

This machine code is not relocatable so it must be loaded into page six (starting at 1536). Also the program does not check for the range errors. The numbers must fit into (FBIT minus SBIT). If they do not the higher bits will not be

interpreted.

The source code can be obtained by attending the assembly language sub-interest group that will begin meeting monthly at 6 pm this month. This group is strictly for beginners or those who are tolerant of the novice.

EXAMPLE PROGRAM

```

5 DIM NAMES$(20),BYTE$(1)
10 GOSUB 200:REM LOAD CODE IN PAGE 6
20 ? "ENTER NAME";:INPUT NAME$
30 ? "ENTER AGE";:INPUT AGE
40 A=USR(1536,ADR(BYTE$),6,0,AGE)
50 ? "ENTER
SEX(1=MALE,0=FEMALE)";:INPUT SEX
60 A=USR(1536,ADR(BYTE$),7,7,SEX)
70 OPEN #1,8,0,"D:TEST":? #1;NAME$:
PRINT #1;BYTE$:CLOSE #1
80 OPEN #1,4,0,"D:TEST":INPUT
#1;NAME$
:INPUT #1;BYTE$
90 PRINT "YOUR NAME IS ";NAME$
100 AGE=USR(1589,ADR(BYTE$),6,0)
110 YOU ARE ";AGE;"YEARS OLD"
120 SEX=USR(1589,ADR(BYTE$),7,7)
130 IF SEX THEN PRINT "AND YOU LOOK
LIKE ITS' BEEN ";AGE;" ROUGH
YEARS!"
140 IF NOT SEX THEN PRINT "BUT YOU
DON'T LOOK A DAY OVER ";AGE-10
200 FOR X=1 TO 105
210 READ CODE
220 POKE 1535+X,CODE
230 NEXT X
240 DATA
104,104,133,204,104,133,203,
104,104,133,206,104,104,133,
205,168,162,0,161,203,57,45
250 DATA 6,196,206,200,144,248,129,
203,104,104,166,205,240,4,
10,202,208,252,1,203,129,252
160 DATA 96,254,253,251,247,239,223
191,127,104,104,133,204,104
133,203,104,104,133,206,104
270 DATA 104,133,205,168,169,0,25,97
6,196,206,200,144,248,162,0,
33,203,164,205,240,5,24,106
280 DATA 136,208,252,134,213,133,212
96,1,2,4,8,16,32,64,128
290 RETURN

```

In Case anyone was wondering
what word processor I was using
for this newsletter, it is a new
one called "CUT & Tape". Only problem
I encountered was a pair of oily
Scissors. Does anyone know of a word
processor that can handle 3 columns
for the Atari?

Phil

Whew!!



Twin Cities Atari Interest Group
684 Queen Avenue South
Richfield, MN 55423



Next TAIG Meeting
Sunday, Nov. 25, 1984
Swap Meet 5:00 p.m.
Board Meeting 5:30 p.m.
Interest Groups 6:00 p.m.
TAIG 7:00 p.m.

St. Louis Park Rec. Center
5005 West 36th Street
St. Louis Park, Minnesota